



US009638370B2

(12) **United States Patent**
Günther et al.

(10) **Patent No.:** **US 9,638,370 B2**

(45) **Date of Patent:** **May 2, 2017**

(54) **LUBRICATING SYSTEM AND VEHICLE WITH A LUBRICATING SYSTEM**

(56) **References Cited**

U.S. PATENT DOCUMENTS

(75) Inventors: **Armin Günther**, Helmstadt-Bargen (DE); **Ralf Trinkel**, Frankenthal (DE); **Bernd Naudszus**, Krefeld (DE); **Sebastian Godowski**, Dortmund (DE); **Herbert Kannegießer**, Düsseldorf (DE)

3,025,559 A 3/1962 Basinger
3,507,359 A * 4/1970 Warnock 184/6
3,721,898 A * 3/1973 Dragoumis et al. 324/693
3,782,501 A * 1/1974 Pagella 184/6.4

(Continued)

(73) Assignee: **Lincoln GMBH**, Walldorf (DE)

FOREIGN PATENT DOCUMENTS

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 554 days.

CN 1840952 A 10/2006
DE 34 15076 C1 11/1985

(Continued)

(21) Appl. No.: **13/555,585**

OTHER PUBLICATIONS

(22) Filed: **Jul. 23, 2012**

International Preliminary Report dated Nov. 12, 2012, for Application No. PCT/EP2011/001619, 6 pages.

(65) **Prior Publication Data**

US 2012/0285773 A1 Nov. 15, 2012

(Continued)

Related U.S. Application Data

(63) Continuation of application No. PCT/EP2011/001619, filed on Mar. 31, 2011.

(51) **Int. Cl.**
B60R 17/02 (2006.01)
F16N 7/38 (2006.01)
F16N 29/00 (2006.01)

(52) **U.S. Cl.**
CPC **F16N 7/385** (2013.01); **F16N 29/00** (2013.01); **F16N 2260/02** (2013.01); **F16N 2260/20** (2013.01)

(58) **Field of Classification Search**
CPC F16N 7/385; F16N 29/00; F16N 2260/02; F16N 2260/20
USPC 184/6.4, 7.2, 6
See application file for complete search history.

Primary Examiner — William A Rivera

Assistant Examiner — Michael Riegelman

(74) *Attorney, Agent, or Firm* — Senniger Powers LLP

(57) **ABSTRACT**

A lubricating system for supplying at least one lubricating point with lubricant is described. The lubricating system is equipped with at least one feed device and at least one line extending between this feed device and a lubricating point. In order to very easily and effectively monitor and indicate the severance of a lubricant line, an electrical connection is respectively provided on the feed device and the lubricating point. An electric conductor extending between the two connections is assigned to the line. A monitoring device is assigned to the line in such a way that it generates a signal when the electric conductor is interrupted. The invention furthermore pertains to a vehicle, particularly a construction machine, which is equipped with such a lubricating system.

8 Claims, 1 Drawing Sheet

